

REMARKS

Claims 14, 15, 23, 24, and 30-41 were previously pending in this application. Claims 1-13, 16-22, and 25-29 were previously canceled without prejudice or disclaimer. Claims 38-41 were added but have been constructively withdrawn from consideration. Claim 37 is canceled, also without prejudice or disclaimer. Claims 14, 15, 23, 30, and 33 are currently amended without introducing new matter. As a result, claims 14-15, 23-24, and 31-36 are pending for examination with claims 14, 30, and 33 being independent claims.

Summary of Telephone Conference with Examiner

Applicants thank the USPTO examiner for accommodating a telephone conference on March 19, 2007 through Applicants representative, Emily Berger and Elias Domingo. During the telephone conference, Applicants and the examiner discussed the pending claims and the cited references. Although no agreement was reached, the examiner agreed to consider the Amendments and Remarks submitted herein.

Election/Restriction Requirement

Claims 38-41 were constructively withdrawn as being directed to a non-elected invention. Applicants respectfully disagree with the restriction requirement. The originally filed claims were restricted into two groups: group I drawn to a method of manufacture and group II drawn to a product. In response, Applicants have withdrawn, and canceled without prejudice or disclaimer, originally-filed claims 1-13 and 25-29 of group I as being directed to a non-elected invention. Claims 14-15, 23-24, and 30-36 of group II, directed to the elected invention, remain pending.

Claims 38-41 are likewise directed to the product and are thus drawn to the elected invention; as such, these claims should not have been withdrawn from consideration.

Accordingly, Applicants request reconsideration and examination of claims 38-41 as being directed to further aspects of the elected invention.

Rejections Under 35 U.S.C. §§ 102/103

Claims 14, 15, 23, 24, and 30-37 are rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over the teaching of Japanese documents 10-228974 (hereinafter “JP ‘974”) and 07-328360 (hereinafter “JP ‘360”).

Applicants maintain that the cited references fail to teach or suggest a recrystallized ceramic material of silicon carbide, silicon nitride, and aluminum oxide, and an impurity that is one of iron, copper, nickel, chromium, and calcium, at less than 1 ppm. The examiner, however, maintains that the cited references teach a recrystallized ceramic material with an impurity of less than 1 ppm. Applicants disagree that because these references fail to teach the presence of nickel, iron, titanium, zirconium, rare earths, etc., the contents are considered zero.

Nonetheless to clarify what Applicants consider an aspect of the invention, independent claim 14 is currently amended as being directed to recrystallized silicon carbide comprising impurities at a concentration of less than about 400 ppm.

The articles disclosed in JP ‘974 are prepared by kneading silicon and carbon powder, which necessarily introduces metallic impurities from the kneading equipment into the subsequently formed ceramic matrix. (See JP ‘974 at Example 1.) Indeed, an iron containing compound is typically used, at 1 wt%, to promote grain growth in the ceramic matrix when producing silicon carbide heaters. (See JP ‘360 at Example.) Because no disclosure has been cited that would necessarily reduce the concentration of these impurities from the disclosed ceramic matrix, the impurities presumptively remain in the formed heaters. For at least these reasons, the silicon carbide heaters disclosed by these references would necessarily have impurities at a concentration of greater than about 400 ppm. The references thus fail to teach the article in the manner claimed. Reconsideration and withdrawal of the rejection of these claims over the cited references is therefore respectfully requested.

Further, Applicants have amended claim 30 to recite a wafer boat. The articles disclosed in JP ‘974 and JP ‘360 are heaters. Because a wafer boat is not a heater, claim 30, as amended, would not have been obvious in light of the teachings of JP ‘974 and JP ‘360, either taken alone or read together.

For at least the foregoing reasons, reconsideration and withdrawal of the rejection of claims 14, 15, 23, 24, 30-36 as being anticipated or obvious over the teachings of JP '974 and JP '360 is respectfully requested. Claim 37 is canceled, without prejudice and disclaimer.

Claims 33-37 are rejected under 35 U.S.C. § 102(b) as being anticipated by the teaching of Holmes et al. in U.S. Patent No. 5,770,324 (hereinafter "Holmes"). The examiner stated that claims 33-37 do not require interconnected pores. Claim 33 has been amended to clarify that the claimed article has an interconnected network of pores. Thus, claims 33-36 cannot be anticipated by the teaching of Holmes. Accordingly, reconsideration and withdrawal of the rejection of claims 33-36 is respectfully requested.

Claims 14, 15, 23, 24, and 30-37 are further rejected under 35 U.S.C. § 102(b) as being anticipated by, or under 35 U.S.C. § 103(a) as obvious over the teaching of Dubots et al. in U.S. Patent No. 6,162,543 (hereinafter "Dubots").

Applicants disagree that claims 14, 15, 23, 24, and 30-37 are anticipated by or would have been obvious over the teaching of Dubots.

As noted above, claims 14 and 33 are currently amended to recite a total impurity concentration of less than about 400 ppm. Dubots describes possible limitations on the total metallic impurity, but it does not disclose a low total impurity concentration.

As discussed above, claim 33 is also amended to recite an article with an interconnected network of pores. Dubots fails to teach an interconnected network of pores because the reference teaches a bimodal ceramic of silicon carbide and carbon. During fabrication, a significant fraction of the starting carbon body is retained as such because the absence of the network of pores of the carbon body prevents impregnation of silicon during silicon carbide formation. Thus, because Dubots fails to teach each and every limitation of the claimed invention, including an interconnected network of pores, the teaching of this reference cannot anticipate the subject matter of these claims.

The examiner states that open porosity has to be connected pores. Applicants respectfully disagree. Open porosity is not well defined in Dubots but typically refers to the fraction of pores exposed to the surface, as opposed to closed within the structure. One of

ordinary skill in the art would not assume otherwise. It is possible for pores exposed to the surface to be far, near, or to abut each other, but not necessarily interconnected to form a network. Thus, Dubots fails to each and every limitation in the manner recited.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections of claims 14, 15, 23, 24, and 30-36 over the cited reference.

CONCLUSION

In view of the foregoing Amendments and Remarks, this application is in condition for allowance; a notice to this effect is respectfully requested. If the examiner believes that the application is not in condition for allowance, the examiner is requested to call Applicants' attorney at the telephone number listed below.

If this Response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, please charge any deficiency to Deposit Account No. 50/2762.

Respectfully submitted,
Yeshwanth Narendar et al., Applicants

By: Elias Domingo/
Elias Domingo, Reg. No. 52,827
Peter C. Lando, Reg. No. 34,654
LOWRIE, LANDO & ANASTASI, LLP
One Main Street
Cambridge, Massachusetts 02142
United States of America
Telephone: 617-395-7000
Facsimile: 617-395-7070

Docket No.: S1432-700819
Date: April 11, 2007